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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------|----------------------------|
| 10/789,033 | 02/27/2004 | Michael Bauer | I431.103.101/FIN 423 US | 8344 |
| 7590 | 04/21/2005 | | | EXAMINER SEFER, AHMED N |
| Dicke, Billig & Czaja, PLLC Fifth Street Towers 100 South Fifth Street, Suite 2250 Minneapolis, MN 55402 | | | ART UNIT 2826 | PAPER NUMBER |

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/789,033 | BAUER ET AL. | |
| | Examiner | Art Unit | |
| | A. Sefer | 2826 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 21 March 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 16 and 17 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-15 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2/2004</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-15) in the reply filed on 3/21/2005 is acknowledged.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "the edge sides". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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5. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Comette ("Comette") USPN 3,887,783.

Comette discloses in figs. 1 and 2 a semiconductor wafer having a top side and a rear side, the semiconductor wafer comprising: semiconductor chips P1-P3 arranged in rows and columns on the wafer top side; strip-type separating regions being arranged between the semiconductor chips; and wherein the separating regions (unnumbered) have passage contacts in the direction of the rear side of the semiconductor wafer.

Regarding claims 2 and 3, Comette discloses passage contacts having perforations, wherein the perforations 11 have walls having a metal layer 13/21 applied thereto (as in claim 3).

Regarding claim 4, Comette discloses the walls also have an insulation layer 10 applied thereto.

Regarding claim 5, Comette discloses (col. 3, lines 21-37) the passage contacts have fusible solder material.

6. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Thomas ("Thomas") USPN 6,213,347.

Thomas discloses in figs. 7 and 8 a semiconductor wafer having a top side and a rear side, the semiconductor wafer comprising: semiconductor chips 70/82 arranged in rows and columns on the wafer top side; strip-type separating regions being arranged between the semiconductor chips; and wherein the separating regions have passage contacts in the direction of the rear side of the semiconductor wafer.

Regarding claims 2 and 3, Thomas discloses passage contacts having perforations, wherein the perforations (unnumbered) have walls having a metal layer 82b applied thereto (as in claim 3).

Regarding claim 4, Thomas discloses the walls also have an insulation layer 76 applied thereto.

Regarding claim 5, Thomas discloses the passage contacts have fusible solder material 82b.

7. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Ingrashi et al. (“Ingrashi”) US PG-Pub 2004/0169271.

Ingrashi discloses in figs. 1 and 2 a semiconductor wafer having a top side and a rear side, the semiconductor wafer comprising: semiconductor chips 12 arranged in rows and columns on the wafer top side; strip-type separating regions being arranged between the semiconductor chips; and wherein the separating regions have passage contacts in the direction of the rear side of the semiconductor wafer.

Regarding claims 2 and 3, Ingrashi discloses passage contacts having perforations, wherein the perforations 41 have walls having a metal layer 11 applied thereto (as in claim 3).

Regarding claim 4, Ingrashi discloses the walls also have an insulation layer 13 applied thereto.

Regarding claim 5, Ingrashi discloses the passage contacts have fusible solder material 15.

8. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Comette.

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Comette discloses in figs. 1 and 2 a semiconductor chip with a top side, a rear side, and with edge sides, the semiconductor chip comprising: an integrated circuit on the top side; at least one edge side having edge contacts (unnumbered) wherein, the edge contacts extend from the top side in the direction of the rear side of the semiconductor chip; and wherein the edge contacts are connected to electrodes 22 of the integrated circuit via conductor tracks (col. 3, lines 21-37).

9. Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by Ingrashi.

Ingrashi discloses in fig. 2 a semiconductor chip with a top side, a rear side, and with edge sides, the semiconductor chip comprising: an integrated circuit on the top side; at least one edge side having edge contacts (sides of region 11) wherein, the edge contacts extend from the top side in the direction of the rear side of the semiconductor chip; and wherein the edge contacts are connected to electrodes 11 (center region) of the integrated circuit via conductor tracks (connection under grooves 41).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Sefer whose telephone number is (571) 272-1921.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANS
April 17, 2005

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800